



UNITED STATES PATENT AND TRADEMARK OFFICE

A

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,272	12/21/2001	Mahadev Somasundaram	CISCP272/5095	8100
22434	7590	10/19/2005	EXAMINER	
BEYER WEAVER & THOMAS LLP			TRUONG, LAN DAI T	
P.O. BOX 70250				
OAKLAND, CA 94612-0250			ART UNIT	PAPER NUMBER
			2143	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/026,272	SOMASUNDARAM ET AL.	
	Examiner	Art Unit	
	lan dai thi trung	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim rejections-35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Crump et al. (U.S. 6,892,245), “Crump”, herein after.

Regarding to claims 14, which is exemplary with claims 1, 4-5, 15-16, 26- 27 and 36:

Crump discloses the invention substantially as claimed, including a method, system and apparatus, which can be implemented in a computer hardware or software code for perform network address translate on data, comprising:

One or more processor: (Crump discloses a packet processor process packets received over a network: column 15, lines 10-45)

One or more memory: (Crump discloses a tangible storage device such as semiconductor memory, a magnetic memory...etc: column 20, lines 39-50)

Receive a first data having a first source address and a first destination address, wherein the first data is sent by a first domain source to a second domain destination, and wherein the first data is received into a first interface: (Crump discloses a Network Address Translator (NAT) receives network packet through a NAT interface, then translates network packet's source

Art Unit: 2132

address and destination address before transmitting the packet to the destination: column 3, lines 35-45; column 10, lines 37-45; column 14, lines 20-25; figure 2A, 2B, 2C, 2D)

Obtain routing information for the first data: (Crump discloses the addresses translation tables used to obtain routing information for “the packet” which is equivalent to “the first data”: figure 2A, 2B, 2C, 2D)

When the first source address is private, translate the first source address into a first public address and forming a first binding between the first source address, the first public address, and the first interface if there is not such a binding formed already, wherein the translation is preformed prior to sending the first data to the second domain destination: (Crump discloses the NAT translates “a source host local address” which is equivalent to “the first source address is private” to “source host global address” which is equivalent to “first public address.” Crump also discloses “the addresses translation table” what is equivalent to “ binding,” which is maintained in order to obtain a particular destination address for the network packet. Typically, the address translation table entries are created by the NAT: column 5, lines 45-67; column 6, lines 1-24; column 10, lines 37-45;)

When the first destination address has a associated binding, translate the first destination address into a first private address specified by the binding associated with the first destination address, wherein the translation of the first destination address is performed prior to sending the first data to the second domain destination: (Crump discloses the NAT is used to translate a destination global address into a destination local address before routing the packet to the destination, this process is shared functionality with “translate the first destination address into a

Art Unit: 2132

first private address specified by the binding associated with the first destination address” :

column 4, lines 1-10)

Send the first data to the second domain destination based on the routing information:
(Crump discloses the addresses translation tables used to obtain routing information for “the packet” which is equivalent to “the first data”: figure 2A, 2B, 2C, 2D)

Regarding to claim 25:

A computer program product for performing network address translation on data, the computer program product comprising:

A least one computer readable medium: (Crump discloses “a tangible storage device” which is equivalent to “computer readable medium” such as semiconductor memory, a magnetic memory...etc: column 20, lines 39-50)

Computer program instructions: (Crump discloses “programmable logic” which is equivalent to “Computer program instructions” stored within “tangible storage medium” which is equivalent to “the at least one computer readable product configured”: column 20, lines 22-67) to cause a network address translation system to:

Receive a first data having a first source address and a first destination address, wherein the first data is sent by a first domain source to a second domain destination, and wherein the first data is received into a first interface: (Crump discloses a Network Address Translator (NAT) receives network packet through a NAT interface, then translates network packet’s source address and destination address before transmit the packet the destination: column 3, lines 35-45; column 14, lines 20-25; figure 2A, 2B, 2C, 2D)

Art Unit: 2132

Obtain routing information for the first data: (Crump discloses the addresses translation tables used to obtain routing information for “the packet” which is equivalent to “the first data”: figure 2A, 2B, 2C, 2D)

When the first source address is private, translate the first source address into a first public address and forming a first binding between the first source address, the first public address, and the first interface if there is not such a binding formed already, wherein the translation is preformed prior to sending the first data to the second domain destination: (Crump discloses the NAT translates “a source host local address” which is equivalent to “the first source address is private” to “source host global address” which is equivalent to “first public address.” Crump also discloses “the addresses translation table” what is equivalent to “ binding” is maintained in order to obtain a particular destination address for the network packet. Typically, the address translation table entries are created by the NAT: column 5, lines 45-67; column 6, lines 1-24; column 10, lines 37-45)

When the first destination address has a associated binding, translate the first destination address into a first private address specified by the binding associated with the first destination address, wherein the translation of the first destination address is performed prior to sending the first data to the second domain destination: (Crump discloses the NAT is used to translate a destination global address into a destination local address before routing the packet to the destination, this process is shared functionality with “translate the first destination address into a first private address specified by the binding associated with the first destination address” : column 4, lines 1-10)

Send the first data to the second domain destination based on the routing information:
(Crump discloses the addresses translation tables used to obtain routing information for “the packet” which is equivalent to “the first data”: figure 2A, 2B, 2C, 2D)

Regarding to claim 2:

Crump discloses a method as discuss in claim 1, which further includes wherein the first binding is formed using one or more Translation Tables: (Crump discloses the addresses translation tables used to obtain routing information for “the packet” which is equivalent to “the first data”: figure 2A, 2B, 2C, 2D)

Regarding to claim 3:

Crump discloses a method as discuss in claim 1, which further includes wherein the first public address is selected from a pool of available public addresses: (Crump discloses a pool of global addresses is used to select and create both source address translation entry and a corresponding destination address translation entry: column 7, lines 41-67)

Regarding to claims 11, 22, 33, those are exemplary with claims 12, 23, 34:

Crump discloses a method as discuss in claims 1, 14 and 25, which is further includes wherein at least one of the processors and memory are further adapted to track which interfaces may communicate with which other interfaces: (Crump discloses a NAT interface table is used to configure and control the set of interfaces that are participating in network address translation: column 16, lines 59-67)

Regarding to claims 4, 15, 26:

Crump discloses a method as discuss in claim 1, which is further includes when the first data has a DNS payload: (Although Crump does not explicitly disclose DNS payload of the data;

Art Unit: 2132

however Crump discloses the communication between host address, local DSN server and NAT for addresses translations; so the DNS payload is deemed to be inherent to the Crump's system: figure 1, items 110, 112, and 102), the method further comprised:

Translating the DNS payload of the first data into a second public address, wherein the translation of the first destination address is performed prior to sending the first data to the second domain destination: (Crump discloses the NAT translates "a source host local address" which is equivalent to "the DNS payload of the first data" to "source host global address" which is equivalent to "public address:" column 5, lines 45-67; column 6, lines 1-24).

Forming a second binding between the DNS payload address, the second public address, and the first interface: (Crump also discloses "the addresses translation table" what is equivalent to "binding" is maintained in order to obtain a particular destination address for the network packet. Typically, the address translation table entries are created by the NAT: column 5, lines 45-67; column 6, lines 1-24; column 10, lines 37-45)

Regarding to claims 5, 16, 27:

Crump discloses a method as discuss in claim 4, which is further includes wherein translating the DNS payload and forming a second binding are only performed when the DNS payload contains a private address: (Crump discloses the NAT translates "a source host local address" which is equivalent to "the private DNS payload" to source host global address. And there are the addresses translation tables are created and maintained in order to obtain a particular destination address for the network packets: column 5, lines 45-67; column 6, lines 1-24).

Regarding to claims 13, 24, 35:

Crump discloses a method as discuss in claims 12, 23 and 34, which is further includes wherein at least one of the processors and memory are further adapt to select a pool of public addresses for each group: (Crump discloses a tangible storage device such as semiconductor memory, a magnetic memory...etc, and a packet processor process packets received over a network. Crump also discloses a pool of global addresses is used to select and create both source address translation entry and a corresponding destination address translation entry: column 15, lines 10-45; column 7, lines 41-67; column 20, lines 39-50Crump)

Regarding to claims 6, 17, 28, 37:

Crump discloses a method as discuss in claim 1, wherein the first data is a DNS request: (Although Crump does not explicitly disclose DNS payload of the data; however Crump discloses the communication between host address, local DSN server and NAT for addresses translations; so the DNS payload is deemed to be inherent to the Crump's system: figure 1, items 110, 112, and 102), the method further comprising:

Receiving a second data after the first data, wherein the second data has a second source address, a second destination address, and DNS payload address, wherein the second data is sent by the second domain source to the first domain destination, and wherein the second data is a DNS reply received into a second interface: (Crump discloses a Network Address Translator (NAT) receives network packet through a NAT interface, then translates network packet's source address and destination address before transmit the packet the destination: column 3, lines 35-45; column 14, lines 20-25; figure 2A, 2B, 2C,2D)

Obtaining routing information for the second data: (Crump discloses the addresses translation tables used to obtain routing information for “the packet” which is equivalent to “the second data”: figure 2A, 2B, 2C, 2D)

When the DNS payload address is private, translating the DNS payload address into a second public address and forming a second binding between the DNS payload address, the second public address, and the second interface: (Crump discloses the NAT translates “a source host local address” which is equivalent to “the private DNS payload address” to “source host global address” which is equivalent to “second public address.” Crump also discloses “the addresses translation table” what is equivalent to “binding” is maintained in order to obtain a particular destination address for the network packet. Typically, the address translation table entries are created by the NAT: column 5, lines 45-67; column 6, lines 1-24; column 10, lines 37-45)

Wherein the translation is performed prior to sending the second data to the first domain destination: (Crump discloses the translation performs before routing the packet to “the destination host” which is equivalent to “the first domain destination”: column 4, lines 7-10).

Sending the second data to the first domain destination based on the routing information obtained for the second data: (Crump discloses the addresses translation tables used to obtain routing information for “the packet” which is equivalent to “the first data”: figure 2A, 2B, 2C, 2D)

Regarding to claims 7, 18, 29:

Crump discloses a method as discuss in claim 6, which is further includes wherein the first binding between the first source address, the first public address, and the first interface is

Art Unit: 2132

formed by creating a first entry in a first table the includes a first identifier for both the first public address and the first destination address, a destination pointer the reference information on how a translate a destination address of a first subsequently received data from the first public address to the first source address, and a source pointer the reference a null value: (Crump discloses the relationships between tables 2A, 2B, 2C, 2D in order to obtain the desired addresses for routing packets to the destination: figures 2A, 2B, 2C, 2D)

Regarding to claims 8, 19, 30:

Crump discloses a method as discuss in claim 7, which is further includes wherein the source pointer referencing a null value indicates that the source address of the first subsequently received data does not require translation: (figures 2A, 2B, 2C, 2D)

Regarding to claims 9, 20, 31:

Crump discloses a method as discuss in claim 8, which is further includes further comprising modifying the first binding, wherein the first binding is modified and the second binding is formed by:

Creating a second entry in the first table that includes a second identifier for both the first source address and the second public address, a destination pointer that references information on how a translate a destination address of a second subsequently received data from the second public address into the DNS payload address, and a source pointer the references information on how to translated a source address of the same second subsequently received data from the first source address into the first public address: (Crump discloses the relationships between tables 2A, 2B, 2C, 2D in order to obtain the desired addresses for routing packets to the destination: (figures 2A, 2B, 2C, 2D)

Creating a third entry in the first table that includes a third identifier for both the DNS payload address and the first public address, a destination pointer the references information on how to translate a destination address of a third subsequently received data from the first public address into the first source address, and source pointer that references information on how to translate a source address of the third subsequently received data from the DNS payload address into the second public address: (Crump discloses the relationships between tables 2A, 2B, 2C, 2D in order to obtain the desired addresses for routing packets to the destination: figures 2A, 2B, 2C, 2D)

Regarding to claims 10, 21, 32:

Crump discloses a method as discuss in claim 9, which is further includes wherein the destination and source pointers each reference a pair having a private address of a particular interface and a corresponding public address, wherein the pair provide pre-translation and post-translation addresses for a particular source or destination address: (Crump discloses the correlations between source addresses such as local source addresses or global source addresses, destination addresses such as local destination addresses or global destination addresses and interfaces: column 10, lines 37-45; column 11, lines 40-67; column 12, lines 49-67; column 13, lines 1-5; column 14, lines 15-42; column 15, lines 25-45)

Conclusion

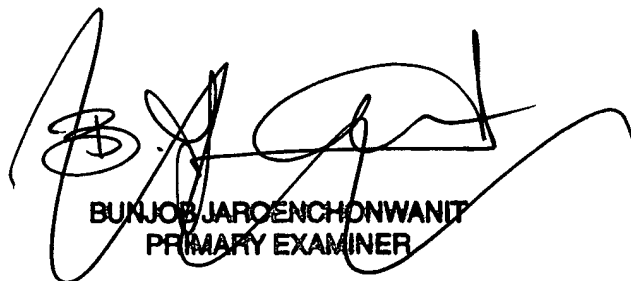
Any inquiry concerning this communication or earlier communications from the examiner should be directed to lan dai thi truong whose telephone number is 571-272-7959. The examiner can normally be reached on monday- friday from 8:30am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lan Dai Thi Truong
Examiner
Art Unit 2143

Ldt
10/12/2005



BUNJOB JAROENCHONWANIT
PRIMARY EXAMINER